AMENDMENTS TO THE CLAIMS

Please cancel claim 4, amend claims 1-3, 5-19 and 22-23, and add new claims 24-26. No new matter is believed to be introduced by the aforementioned amendments and new claims. The following listing of claims will replace all prior versions and listings of claims in the application.

1.   (Currently Amended) A vertical cavity surface emitting laser module ~~configured to operate within a temperature range~~, the module comprising:

a vertical cavity surface emitting laser that has ~~an optimal~~ a predetermined operating temperature that corresponds with desired operational characteristics of the vertical cavity surface emitting laser, wherein the vertical cavity surface emitting laser is tuned such that the [[optimal]] predetermined operating temperature is higher than a room temperature;

a temperature sensor; and

a heater configured to [[turn on]] transfer heat to the vertical cavity surface emitting laser when the temperature sensor senses a temperature [[measurement]] that is below ~~a predetermined value~~ an activation temperature, wherein the ~~predetermined value~~ activation temperature is determined in relation to the [[optimal]] predetermined operating temperature of the vertical cavity surface emitting laser.

2.   (Currently Amended) A module as defined in claim 1, wherein the [[optimal]] predetermined operating temperature ~~is configured by adjusting~~ is a function of a thickness of an active layer included in the vertical cavity surface emitting laser.

3.   (Currently Amended) A module as defined in claim 1, wherein the [[optimal]] predetermined operating temperature ~~is configured by adjusting~~ is a function of a composition of an active layer included in the vertical cavity surface emitting laser.

4.   (Canceled)

5.   (Currently Amended) A module as defined in claim 1, wherein at the [[optimal]] predetermined operating temperature, a cavity resonance point of the vertical cavity surface emitting laser is substantially aligned with a gain bandwidth peak of the vertical cavity surface emitting laser.

6.   **(Currently Amended)** A module as defined in claim 1, wherein the temperature sensor [[is]] comprises a thermistor.

7.   **(Currently Amended)** A module as defined in claim 1, wherein the heater [[is]] comprises a resistor.

8.   **(Currently amended)** A vertical cavity surface emitting laser module configured to operate within a temperature range that is higher than a conventional vertical cavity surface emitting laser tuned to operate at room temperature, the module comprising:

> a vertical cavity surface emitting laser (VCSEL) having an active region, wherein a thickness and a composition of the VCSEL are configured such that an optimal a predetermined operating temperature of the VCSEL is higher than about room temperature;

> a temperature sensor that senses an operating temperature of the VCSEL; and

> a control module that prevents the operating temperature of the VCSEL from falling below a threshold an activation temperature using a heater to raise the operating temperature to the an optimal a predetermined operating temperature.

9.   **(Currently Amended)** A module as defined in claim 8, wherein the temperature sensor [[is]] comprises a thermistor.

10.   **(Currently Amended)** A module as defined in claim 8, wherein a cavity resonance of the VCSEL is chosen such that the cavity resonance substantially aligns with a gain bandwidth peak of the VCSEL when the operating temperature substantially matches the [[optimal]] predetermined operating temperature.

11.   **(Currently amended)** A module as defined in claim 8, wherein the [[optimal]] predetermined operating temperature is greater than room temperature.

12.   **(Currently amended)** A module as defined in claim 8, wherein the [[optimal]] predetermined operating temperature is greater than about 50 degrees Celsius.

13.   **(Currently amended)** A module as defined in claim 8, wherein the [[optimal]] predetermined operating temperature is about 70 degrees Celsius.

14.   (**Currently amended**) A module as defined in claim 8, wherein the [[threshold]] activation temperature is determined in relation to the [[optimal]] predetermined operating temperature.

15.   (**Currently amended**) A module as defined in claim 8, wherein the [[threshold]] activation temperature is determined in relation to room temperature.

16.   (**Currently amended**) A module as defined in claim 8, wherein the control module turns the heater off when the operating temperature exceeds the [[optimal]] predetermined operating temperature.

17.   (**Currently Amended**) A vertical cavity surface emitting laser module configured to operate within a temperature range that is wider than a conventional vertical cavity surface emitting laser tuned to operate at room temperature, the module comprising:

a vertical cavity surface emitting laser (VCSEL) having an active region with a thickness and a composition such that are chosen such that a corresponding cavity resonance substantially aligns with a gain bandwidth peak of the VCSEL at an optimal a predetermined operating temperature that is higher than about 30 degrees Celsius;

a temperature sensor that senses an operating temperature of the VCSEL;

a heating element to selectively transfer heat to the VCSEL; and

a control module that turns the heating element on and off based on a value of the operating temperature received from the temperature sensor, wherein the control module turns the heating element on when the operating [[temperate]] temperature reaches a threshold an activation temperature that is below the [[optimal]] predetermined operating temperature and wherein the control module turns the heating element off when the operating temperature is close to within a predetermined range or exceeds the [[optimal]] predetermined operating temperature.

18.   (**Currently Amended**) A module as defined in claim 17, wherein the [[optimal]] predetermined operating temperature is higher than about 50 degrees Celsius and below about 90 degrees Celsius.

19.   (**Currently Amended**) A module as defined in claim 18, wherein the [[optimal]] predetermined operating temperature is about 70 degrees Celsius.

20.　　**(Original)**　　A module as defined in claim 17, wherein the heating element is in contact with a portion of the VCSEL.

21.　　**(Original)**　　A module as defined in claim 17, wherein the heating element is in an enclosed area with the VCSEL.

22.　　**(Currently Amended)** A module as defined in claim 17, wherein the heating element [[is]] comprises a resistor.

23.　　**(Currently Amended)** A module as defined in claim 17, wherein the temperature sensor [[is]] comprises a thermistor.

24.　　**(New)** A vertical cavity surface emitting laser (VCSEL) module, comprising:

a VCSEL;

a temperature sensor configured to sense an operating temperature of the VCSEL;

a heating element in thermal communication with the VCSEL; and

a control module in communication with the temperature sensor and operably connected with the heating element and with the VCSEL, and the control module configured to operate in:

a first operational mode where a change in operating temperature of the VCSEL is associated with a VCSEL operating current output of the control module; and

a second operational mode where a change in operating temperature of the VCSEL is associated with a heating element control output of the control module, the heating element control output corresponding with a thermal output of the heating element.

25.　　**(New)** The VCSEL module as recited in claim 24, wherein a drop in VCSEL operating temperature below an activation temperature is associated with either:

a corresponding relative increase in the VCSEL operating current output of the control module; or

a corresponding change in a heating element control output of the control module.

26.   **(New)** A VCSEL module as defined in claim 24, wherein the control module is configured to operate in whichever operational mode requires the least amount of energy, relative to the other operational mode.